

Postgraduate Certificate

Cardiac Emergencies in the PICU





Postgraduate Certificate Cardiac Emergencies in the PICU

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Credits: 6 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: www.techtitute.com/us/medicine/postgraduate-certificate/cardiac-emergencies-picu

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01

Introduction

Cardiac Emergencies in the Pediatric Intensive Care Unit (PICU) present a significant challenge in the field of child health. In fact, recent years have seen an increase in the incidence of severe cardiac conditions in children, ranging from Cardiomyopathies to Arrhythmias, both Congenital and Acquired. Therefore, early identification of symptoms, accurate diagnosis and early intervention are essential to improve the prognosis and quality of life of these pediatric patients. In this context, TECH has created a complete program that is fully online and very flexible, requiring only an electronic device with an Internet connection to access the didactic materials. In addition, it uses the innovative learning methodology called Relearning.



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Thanks to this 100% online Postgraduate Certificate, you will obtain a specialized and updated preparation in the management of critical situations related to pediatric cardiac pathologies"

Recent data support the increasing incidence of severe cardiac pathologies in the pediatric population, including Congenital Anomalies, Cardiomyopathies and Arrhythmias. Therefore, care in the PICU is compromised by the complexity of these conditions, which can present suddenly and require urgent and specialized interventions.

This is how this Postgraduate Certificate was born, which will offer a comprehensive approach to the management of congenital heart disease, from initial stabilization to preparation for further interventions. In addition, strategies for the rapid identification and stabilization of these pediatric patients will be discussed, along with the implementation of advanced ICU management protocols, including life support and specialized monitoring. In this way, physicians will acquire practical and theoretical skills to address these complex conditions.

Likewise, professionals will be specialized in the identification and treatment of acute conditions, such as Myocarditis and Cardiomyopathies, using evidence-based approaches and updated protocols. The management of specific complications, such as Pericarditis and Pericardial Effusion, will also be discussed through the analysis of diagnostic techniques and available therapeutic options.

Finally, the importance of effective postoperative care after pediatric cardiac surgery will be addressed, focusing on patient recovery and prevention of sequelae. Likewise, tools and strategies for the comprehensive care of the postoperative pediatric patient will be given, to ensure a successful recovery and a better quality of life. To this we must add the interpretation of echocardiography studies in the PICU, providing graduates with the necessary skills to guide clinical decision making.

In this situation, TECH has created a comprehensive program completely online, adapted to the individual needs of the students, eliminating inconveniences such as traveling to a physical center or adjusting to a fixed schedule. Additionally, it is based on the innovative Relearning methodology, which consists of the repetition of key concepts to ensure an optimal and natural assimilation of the contents.

This **Postgraduate Certificate in Cardiac Emergencies in the PICU** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ The development of practical cases presented by experts in Cardiac Emergencies in the PICU
- ♦ The graphic, schematic and eminently practical contents with which it is conceived gather scientific and practical information on those disciplines that are indispensable for professional practice
- ♦ Practical exercises where the self-assessment process can be carried out to improve learning
- ♦ Its special emphasis on innovative methodologies
- ♦ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ♦ Content that is accessible from any fixed or portable device with an Internet connection



You will become familiar with the latest research, management protocols and technological advances in the field of pediatric cardiology, thanks to the extensive library of multimedia resources offered by TECH"

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You will recognize and respond appropriately to Cardiac Emergencies, with a special emphasis on rapid intervention and prevention of long-term complications. With all the TECH quality guarantees!"

The program's teaching staff includes professionals from the field who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive education programmed to learn in real situations.

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the course. For this purpose, students will be assisted by an innovative interactive video system created by renowned and experienced experts.

You will acquire specialized knowledge in the interpretation of Echocardiography studies in the PICU, through the best teaching materials on the market, at the forefront of education and technology.

You will deepen your understanding and application of strategies to address Congenital Heart Disease, from initial stabilization to preparation for additional surgical interventions. Enroll now!



02 Objectives

The objectives of this Postgraduate Certificate will cover the comprehensive specialization of professionals in the effective management of critical situations related to cardiac pathologies in children. Therefore, graduates will be provided with updated knowledge on Congenital Heart Disease, Myocarditis, Cardiomyopathies and other pediatric cardiac emergencies, as well as stabilization strategies and preparation for additional interventions. In addition, advanced management protocols, including life support techniques and specialized monitoring, will be discussed to ensure optimal and safe care in the PICU.



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Bet on TECH! You will provide effective postoperative care following Pediatric Cardiac Surgery, with a focus on patient recovery and prevention of complications”



General Objectives

- ♦ Provide advanced specialization on the diagnosis, management and treatment of Congenital Heart Disease in the Pediatric Intensive Care Unit
- ♦ Prepare pediatric specialists to perform critical interventions, including Cardiorespiratory Resuscitation and the use of specialized pharmacological agents in the intensive care setting



This Postgraduate Certificate will seek to qualify highly competent and specialized professionals to meet the specific challenges of Cardiac Emergencies in the PICU setting"





Specific Objectives

- Analyze initial management strategies for Congenital Heart Disease, including stabilization and preparation for additional interventions
- Apply advanced management protocols for patients with Congenital Heart Disease in the ICU, including life support and specialized monitoring
- Identify and treat acute conditions, such as Myocarditis and Cardiomyopathies, applying the latest research
- Manage complications such as pericarditis and pericardial effusion, including diagnostic techniques and therapeutic options
- Implement effective postoperative care after Pediatric Cardiac Surgery, focusing on recovery and prevention of sequelae
- Interpret PICU Echocardiography studies to guide clinical decision making and patient management

03

Course Management

The faculty are highly qualified and experienced experts in the field of Pediatric Cardiology and Intensive Care. These professionals possess vast clinical and academic experience, as well as a deep understanding of the complexities and challenges associated with cardiac emergencies in children. In addition, their commitment to quality teaching and passion for improving medical care in the PICU will ensure that graduates acquire fundamental skills and knowledge to effectively and safely address Cardiac Emergencies in this critical setting.



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TECH faculty stay abreast of the latest research, technological advances and best practices in the management of pediatric cardiac pathology, imparting up-to-date and relevant knowledge”

Management



Dr. Ocete Hita, Esther

- ♦ Head of the Pediatric Hospitalization Section of Virgen de las Nieves University Hospital of Granada
- ♦ FEA Pediatrics in the Pediatric Intensive Care Unit of Virgen de las Nieves University Hospital of Granada
- ♦ Associate Professor in the Faculty of Medicine at the University of Granada
- ♦ Specialist Pediatrician
- ♦ Doctor of Medicine
- ♦ Degree in Medicine

Professors

Dr. Rosa Camacho, Vanessa

- ♦ FEA of Pediatrics in Critical Care and Pediatric Emergency, HRU Maternity Hospital, Malaga
- ♦ Specialist in Pediatric Intensive Care from the Valle de Hebron Hospital, Barcelona
- ♦ Specialist in Pediatrics and Specific Areas at the HRU Carlos Haya Maternity Hospital, Malaga
- ♦ Doctor of Medicine, University of Malaga
- ♦ Master's Degree in Pediatric Emergencies by the Catholic University of Valencia
- ♦ Degree in Medicine and General Surgery from the University of Granada

Dr. Sánchez Yáñez, Pilar

- ♦ FEA in Pediatrics in the Critical Care and Pediatric Emergency Unit of the HRU of Malaga
- ♦ Coordinator of the Research Working Group of the Pediatric Intensive Care Unit, Malaga Regional University Hospital
- ♦ Member of the Working Group on Infectious Diseases and Control of Healthcare-Related Infections of the Pediatric Intensive Care Unit, Malaga Regional University Hospital
- ♦ Member of the Working Group on Extracorporeal Membrane Oxygenation of the Pediatric Intensive Care Unit, Malaga Regional University Hospital
- ♦ Member of the Pediatric Research Group at the Biomedical Research Institute of Malaga (IBIMA) and the Nanomedicine Platform (BIONAND)
- ♦ Member of the Ultrasound Working Group of the Spanish Society of Pediatric Intensive Care (SECIP)
- ♦ FEA in the Pediatric and Neonatal Intensive Care Unit at the Josep Trueta Hospital, Gerona
- ♦ FEA in the Pediatric Hospitalization Service, Neonatology Unit and Pediatric Intensive Care Unit at Hospital Quirón, Málaga
- ♦ FEA in the Pediatric Intensive Care and Emergency Unit of the Carlos Haya Hospital, Malaga
- ♦ Rotation in the Pediatric Intensive Care Unit (PICU) and the Pediatric Cardiovascular Intensive Care Unit (CICU) at Great Ormond Street Hospital, London
- ♦ Specialist in Pediatrics and Specific Areas at the Maternal-Children's Hospital HRU of Malaga
- ♦ University Expert in Statistics Applied to Health Sciences from the National University of Distance Education (UNED)
- ♦ Degree in Medicine and Surgery from the University of Granada

Dr. Moyano Leiva, Olalla

- ♦ FEA in Pediatrics in the PICU of the Maternal-Children's Hospital, Málaga
- ♦ FEA in Pediatrics in the PICU of the Virgen del Rocio Hospital, Seville
- ♦ FEA in Pediatrics in the Neonatal and PICU of the Hospital Nisa Pardo de Aravaca, Madrid
- ♦ Rotation in the Neonatal Intensive Care Unit, Hospital Vall d'Hebron, Barcelona
- ♦ Specialist in Pediatrics and its Specific Areas, subspecialty in Pediatric Intensive Care, Maternal Hospital, Malaga
- ♦ Degree in Medicine and Surgery from the University of Granada

Dr. Valverde Montoro, Delia

- ♦ FEA in Pediatrics in the Critical Care and Pediatric Emergency Unit of the HRU of Malaga
- ♦ FEA in Pediatrics in the Intensive Care Unit of the Vall d'Hebron University Hospital, Barcelona
- ♦ FEA in Pediatrics at the Quirón Dexeus University Hospital, Barcelona
- ♦ FEA in Pediatrics in the Intensive Care Unit of the Doctor Josep Trueta University Hospital, Girona
- ♦ Specialist in Pediatrics at the Regional University Hospital of Malaga
- ♦ Master's Degree in Neonatology from the Spanish Society of Neonatology (SENEO)
- ♦ Expert Level of Hospital Care Pediatrician by the Accreditation Program of Professional Competence
- ♦ Degree in Medicine from the University of Cordoba

Dr. Hernández Yuste, Alexandra

- ♦ FEA in Pediatrics at the PICU of the Malaga Maternity and Children's Hospital
- ♦ Specialist in Pediatrics and Specific Areas, subspecialty in Pediatric Intensive Care Cardiac, by the Regional University Hospital of Malaga
- ♦ Master's Degree in Diagnosis and Treatment in Pediatric Cardiology and Cardiopathologies by the CEU-Cardenal Herrera University
- ♦ University Expert in Surgery, Anesthesia and Intensive Care of Congenital Heart Diseases from the CEU - Cardenal Herrera University
- ♦ University Expert in Fetal and Pediatric Cardiophysiology by the CEU-Cardenal Herrera University
- ♦ University Expert in Pediatric and Adolescent Cardiology and Cardiac Catheterization from the CEU - Cardenal Herrera University
- ♦ University Expert in Noninvasive Pediatric Cardiology by the CEU-Cardenal Herrera University
- ♦ Degree in Medicine from the University of Salamanca





Dr. Roldán Tormo, Elena

- ◆ FEA in Pediatrics at the PICU of the Maternal-Children's Hospital of Malaga
- ◆ FEA in Pediatrics in the Pediatric Intensive Care Unit of the Virgen de la Arrixaca Laboratory University Hospital, Murcia
- ◆ Specialist in Pediatrics and its Specific Areas, subspecialty in Pediatric Intensive Care, Maternal Hospital of Málaga
- ◆ Master's Degree in Clinical Reasoning and Clinical Practice, Alcalá University
- ◆ Master's Degree in Neonatology from the Catholic University of San Antonio de Murcia
- ◆ University Expert in Pediatric Emergency Medicine from the Catholic University of Valencia
- ◆ Graduate in Medicine from the University of Granada

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A unique, crucial and decisive learning experience to boost your professional development”

04

Structure and Content

Contents will include a detailed analysis of initial management strategies for Congenital Heart Disease, focusing on patient stabilization and preparation for further interventions. In addition, the identification and treatment of acute conditions, such as Myocarditis and Cardiomyopathies, will be addressed using the latest research and treatments available. Cardiac complications, such as Pericarditis and Pericardial Effusion, will also be examined, along with diagnostic techniques and therapeutic options. And special attention will be given to postoperative care after pediatric cardiac surgery, focusing on patient recovery and prevention of complications.



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The contents of the Postgraduate Certificate will cover a wide range of fundamental topics for the effective management of critical situations in pediatric patients with cardiac pathologies"

Module 1. Cardiologic Emergencies in the Pediatric Intensive Care Unit

- 1.1. Diagnostic Orientation of Congenital Heart Diseases in Pediatric Intensive Care Units
 - 1.1.1. Clinical Presentations of Congenital Heart Disease in PICU
 - 1.1.2. Interpretation of Specific Diagnostic Test Findings for Congenital Heart Disease
 - 1.1.3. Integration of the Clinical History with Imaging and Laboratory Findings to Establish an Initial Diagnostic Plan
- 1.2. Management of Congenital Heart Disease in the ICU
 - 1.2.1. Coordination of the Multidisciplinary Management of Patients with Congenital Heart Disease in the ICU
 - 1.2.2. Monitoring and Adjustment of Specific Pharmacological Treatment for Each Type of Congenital Heart Disease
 - 1.2.3. Implementation of Strategies to Prevent Complications Associated with Congenital Heart Disease in the ICU
- 1.3. Mechanical Circulatory Support
 - 1.3.1. Evaluation of the Indication for Mechanical Circulatory Support in Critical Pediatric Patients
 - 1.3.2. Management of Ventricular Assist Devices Operation and Complications
 - 1.3.3. Monitoring of the Patient's Response to Circulatory Support and Adjustments According to Clinical Evolution
- 1.4. Cardiac Tamponade.
 - 1.4.1. Early Recognition of Signs and Symptoms
 - 1.4.2. Mastery of Diagnostic Techniques for Cardiac Tamponade
 - 1.4.3. Effective Implementation of Emergency Interventions
- 1.5. Myocarditis and Cardiomyopathies
 - 1.5.1. Signs and Symptoms of Myocarditis and Cardiomyopathies in Children and Young Adults
 - 1.5.2. Interpretation of Imaging and Laboratory Studies for Diagnostic Confirmation of Myocarditis and Cardiomyopathies
 - 1.5.3. Implementation of Specific Treatments for Myocarditis and Cardiomyopathies Management of Heart Failure





- 1.6. Pericarditis and Pericardial Effusion
 - 1.6.1. Diagnosis of Pericarditis and Pericardial Effusion using Clinical and Echocardiographic Tools
 - 1.6.2. Management of Acute Pericarditis and Pericardial Effusion Pericardiocentesis
 - 1.6.3. Prevention of Long-term Complications of Pericarditis and Pericardial Effusion: Pericardial Constriction
- 1.7. Postoperative Management of Pediatric Cardiac Surgery
 - 1.7.1. Supervision of Immediate Postoperative Hemodynamic and Respiratory Stabilization
 - 1.7.2. Detection and Treatment of Common Postoperative Complications in Pediatric Cardiac Surgery
 - 1.7.3. Recovery and Rehabilitation: Comprehensive Postoperative Care Plan
- 1.8. Echocardiography in PICU
 - 1.8.1. Performing and Interpreting Echocardiograms to Guide Real-time Intensive Care Management
 - 1.8.2. Echocardiography to Monitor Ventricular Function and Assess for the Presence of Structural Abnormalities
 - 1.8.3. Use of Echocardiography to Assess the Efficacy of Treatment and the Need for Therapeutic Adjustments
- 1.9. Vasopressors, Vasodilators and Inotropic Agents in Pediatrics
 - 1.9.1. Selection and Dosing of Vasopressors, Vasodilators and Inotropic Agents for Different Clinical Scenarios
 - 1.9.2. Monitoring of Cardiovascular Response and Adjustment of Pharmacological Therapy According to the Patient's Evolution
 - 1.9.3. Recognition and Management of Side Effects and Drug-drug Interactions of these Agents
- 1.10. Basic and Advanced Cardiorespiratory Resuscitation
 - 1.10.1. Performance of Basic Cardiorespiratory Resuscitation in Pediatric Patients: Application of Chest Compressions and Assisted Ventilation
 - 1.10.2. Advanced Cardiac Life Support Techniques in Children Airway Management, Vascular Access, Drug Administration and Use of Defibrillators
 - 1.10.3. Analysis and Response to the Different Possible Scenarios of Pediatric Cardiac Arrest

05

Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning**.

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.



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Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"

At TECH we use the Case Method

What should a professional do in a given situation? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

With TECH you will experience a way of learning that is shaking the foundations of traditional universities around the world.



According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions in the physician's professional practice.

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Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method”

The effectiveness of the method is justified by four fundamental achievements:

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

This university is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, a real revolution with respect to the mere study and analysis of cases.

Professionals will learn through real cases and by resolving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.



At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology, more than 250,000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

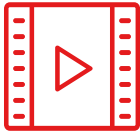
Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by TECH's learning system is 8.01, according to the highest international standards.



This program offers the best educational material, prepared with professionals in mind:



Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



Surgical Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many times as you like.



Interactive Summaries

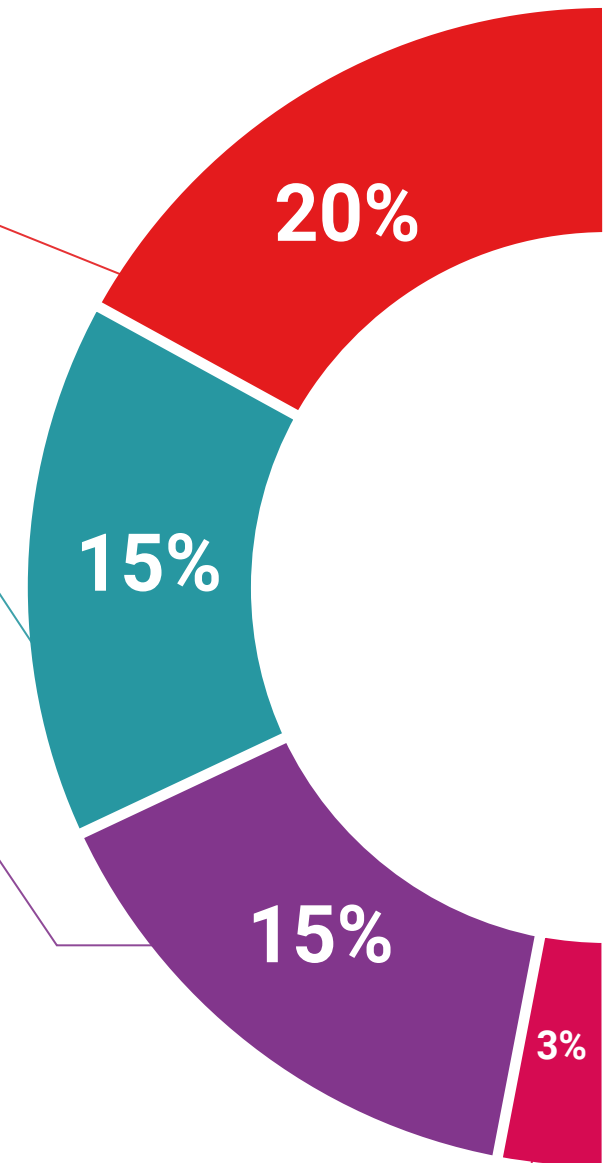
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

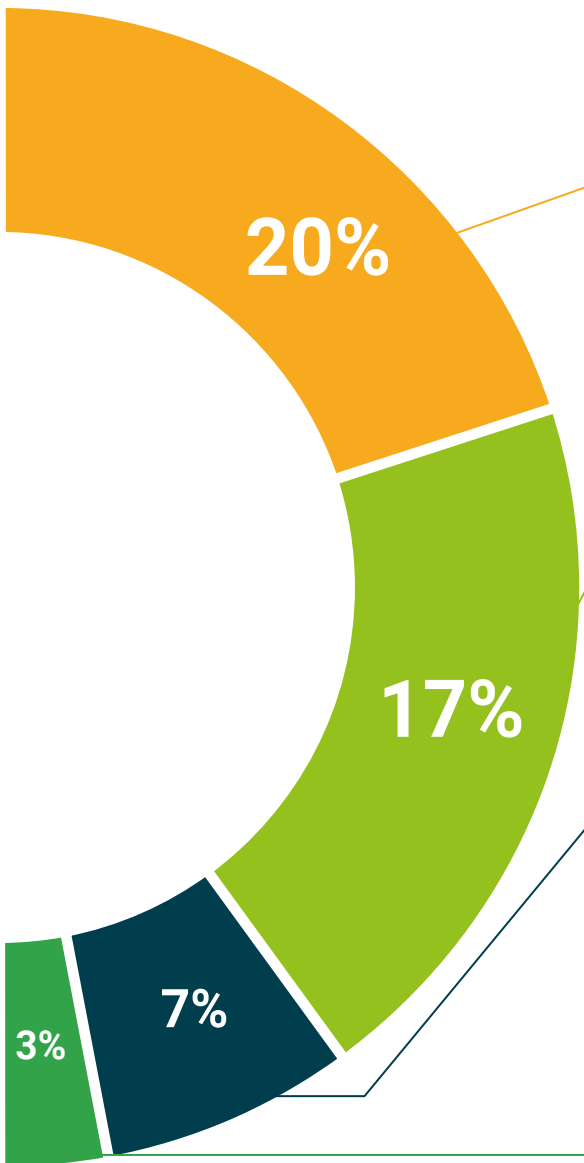
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



Classes

There is scientific evidence on the usefulness of learning by observing experts. The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.



06 Certificate

The Postgraduate Certificate in Cardiac Emergencies in the PICU guarantees, in addition to the most accurate and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.



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Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork”

This private qualification will allow you to obtain a **Postgraduate Certificate in Cardiac Emergencies in the PICU** endorsed by **TECH Global University**, the world's largest online university.

TECH Global University is an official European University publicly recognized by the Government of Andorra ([official bulletin](#)). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

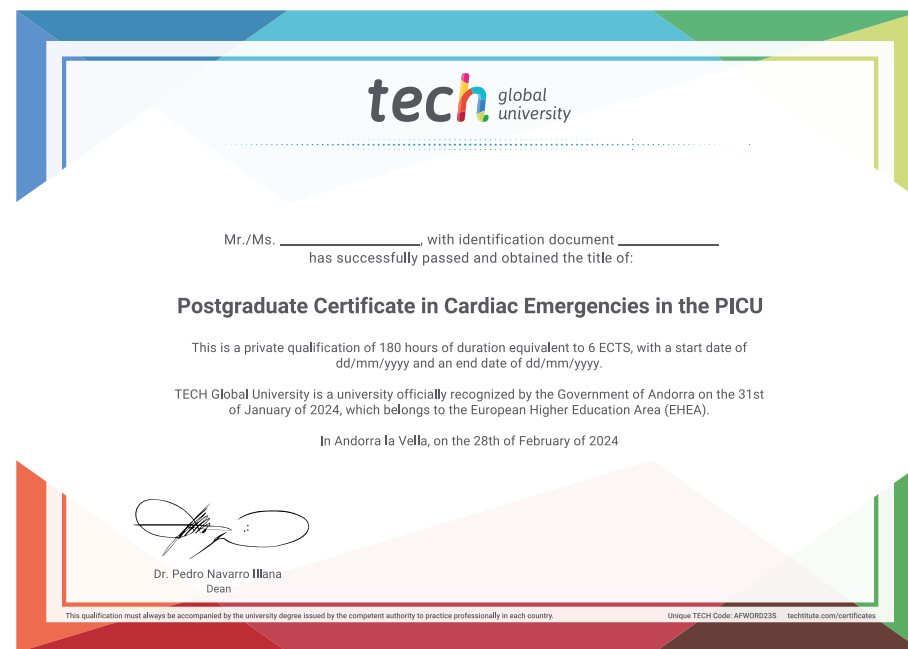
This **TECH Global University** private qualification is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Cardiac Emergencies in the PICU**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH Global University will make the necessary arrangements to obtain it, at an additional cost.



Postgraduate Certificate
Cardiac Emergencies in the PICU

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Credits: 6 ECTS
- » Schedule: at your own pace
- » Exams: online

Postgraduate Certificate

Cardiac Emergencies in the PICU

